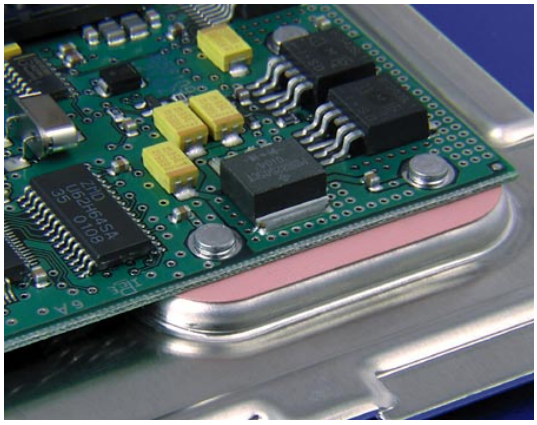
THE BERGQUIST COMPANY

Sil-Pad®900S

High Performance Insulator for Low Pressure Applications

Features and Benefits

- Thermal impedance 0.61°C-in^2/W (@50 psi)
- Low mounting pressures
- Smooth and highly compliant surface
- Electrically isolating



The Sil-Pad 900S family of thermally conductive insulation materials is designed for applications requiring high thermal performance and electrical isolation. These applications also typically have low mounting pressures for component clamping.

Sil-Pad 900S material combines a smooth and highly compliant surface characteristic with high thermal conductivity. These features optimize the thermal resistance properties at low pressure.

Applications requiring low component clamping forces include discrete semiconductors (TO-220, TO-247 and TO-218) mounted with spring clips. Spring clips assist with quick assembly but apply a limited amount of force to the semiconductor. The smooth surface texture of Sil-Pad 900S minimizes interfacial thermal resistance and maximizes thermal performance.

Typical Properties of Sil-Pad 900S

Property	Imperial Value	Metric Value	Test Method
Color	Pink	Pink	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	***
Thickness, (inch) / (mm)	0.009	0.229	ASTM D374
Hardness, (Shore A)	92	92	ASTM D2240
Elongation, (%45° to Warp & Fill)	20	20	ASTM D412
Tensile Strength, (psi) / (Mpa)	1300	9	ASTM D412
Continuous Use Temp., (°F) / (°C)	-76 to 356	-60 to 180	***
Electrical	**Imperial Value**	**Metric Value**	**Test Method**
Dielectric Breakdown Voltage, (VAC)	5500	5500	ASTM D149
Type 3 Electrodes	8300	8300	ASTM D149
Dielectric Constant, (1000 Hz)	6.0	6.0	ASTM D150
Volume Resistivity, (Ohm-meter)	10^{10}	10^{10}	ASTM D257
Flame Rating	94 V-O	94 V-O	U.L.
Thermal	**Imperial Value**	**Metric Value**	**Test Method**
Thermal Conductivity, (W/m-K)	1.6	1.6	ASTM D5470

Thermal Impedance vs. Pressure

Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance, (°C/W)	3.96	3.41	2.90	2.53	2.32
Thermal Impedance, (°C-in^2/W) (1)	0.95	0.75	0.61	0.47	0.41

1). The ASTM D5470 (Bergquist Modified) test fixture was used. The recorded value includes interfacial thermal resistance. These values are given to the customer for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

Typical Applications Include

- Power supplies
- Automotive electronics
- Motor controls
- Power semiconductors

Configurations

Available:

- Sheet form
- Die-Cut parts
- Roll form
- With or without pressure sensitive adhesive

We produce thousands of specials. Tooling charges vary depending on tolerances and complexity of the part.

Sil-Pad®: U.S. Patents 4,574,879; 4,602,125; 4,602,678; 4,685,987; 4,842,911 and others

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